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GLENN PATENT GROUP
3475 Edison Way
Suite L
Menlo Park, CA 94025

EXAMINER	
MORGAN, ROBERT W	
ART UNIT	**PAPER NUMBER**
3626	

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. 10/076,961	Applicant(s) SURESH ET AL.	
	Examiner Robert W. Morgan	**Art Unit** 3626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 7-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. In the amendment filed 10/23/03 in paper number 15, the following has occurred: Claims 1, 2, 7-9 and 15 have been amended and claim 6 has been canceled. Now claims 1-5 and 7-19 are presented for examination.

Claim Objections

2. The objection to claim 9 has been withdrawn by the examiner based on the changes made by the applicant to the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2, 7, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,253,164 to Holloway et al. in view of U.S. Patent No. 6,253,186 to Pendleton, Jr. et al.

As per claim 1, Holloway et al. teaches a method and system for detecting fraudulent medical claims including an expert computer system using a set of decision-making rules coupled to a knowledge base of facts and observations to assist the medical claims process (see: column 3, lines 30-32 and 51-54).

Holloway et al. fails to teach:

--the claimed determining a sequence of healthcare states for a client from healthcare reimbursement claims associated with the client and storing said sequence in any of:

a data structure in a system database; and

in working memory, and

wherein previously stored associated healthcare states are listed in chronological order for each client, and wherein each state is accompanied by an identification of any of a provider and a facility responsible for said each state, start and date, and other relevant information as necessary for computation of a transition sequence used in calculating a transaction metric for each transaction between states;

--the claimed calculating a probability of the sequence based on previously calculated probabilities of individual ones of the healthcare states; and

--the claimed identifying the sequence as potentially fraudulent as a function of the probability of the sequence.

Pendleton, Jr. teaches a method and apparatus for detecting potentially fraudulent suppliers or providers of goods or services including the steps of: a) collecting data on a plurality of suppliers and providers, including data relating to claims submitted for payment by the suppliers and providers; b) processing the data to produce a fraud indicator for at least one of the suppliers and providers; and c) determining, using the fraud indicator, whether the selected supplier or provider is a potentially fraudulent supplier or provider (see: column 1, lines 49-60). Pendleton, Jr. further teaches the use of a composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). Pendleton, Jr. also teaches that other approaches include computing a weighted average of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a

threshold number, which is based upon prior experience (block 70) (see: column 7, lines 32-37). Furthermore, any supplier or provider that exceeds the fraud indicator threshold value is stored in the NN data base file for tracking purposes (see: column 7, lines 41-47). Moreover, Pendleton, Jr. teaches a process by which a neural network (reads "working memory") analyzes the claim line information in the claim file (48, Fig. 5) to produce a number or score for each claim line which is viewed as a fraud index or indicator (see: column 7, lines 5-9). The Examiner considers the number or score for each claim line mentioned above as the information necessary to compute a transition sequence used in calculating a transition metric for transition between states.

One of ordinary skill in the art at the time the invention was made would have found it obvious to include the fraud indicator and threshold values for detecting potentially fraudulent suppliers or providers of goods or services as taught by Pendleton, Jr. et al. with the method and system for detecting fraudulent medical claims as taught by Holloway et al. with the motivation of providing an automated system for processing a large number of claims submitting to payor to identify patterns in the claim data which may be indicative of a fraudulent provider or supplier (see: Pendleton et al.: column 1, lines 27-30).

As per claim 2, Holloway et al. teaches that a user entering claim information into the computer system (2, Fig. 1) which is sent to a knowledge base interpreter (5, Fig. 1) for assessment of the claim and a recommendation is returned to the user as to whether the claim is proper or improper (see: column 4, lines 51-64). The Examiner considers the steps involved with processing, analyzing and verifying the claim as a sequence of healthcare states.

However, Holloway et al. fails to teaches determining a probability of the healthcare state as a function of the frequency of the healthcare state in the reimbursement claims and processing healthcare reimbursement claims for a population of clients and healthcare providers for a selected time interval to identify a total set of potential healthcare states.

Pendleton Jr. et al. teaches the use of a composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). Pendleton, Jr. also teaches that other approaches include computing a weighted average (reads on "determining probability and function of the frequency") of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a threshold number, which is based upon prior experience (block 70) (see: column 7, lines 32-37). In addition, Pendleton, Jr. et al. teaches that historical data is extracted for a selected supplier or provider with reference to the claim analysis network over a period of time (e.g. 6 months) (see: column 12, lines 12-25).

The obviousness of combining the teachings of Pendleton Jr. et al. with the system as taught by Holloway et al. are discussed in the rejection of claim 1, and incorporated herein.

As per claim 7, Holloway teaches a method and system for detecting fraudulent medical claims including an expert computer system using a set of decision-making rules coupled to a knowledge base of facts and observations to assist the medical claims process (see: column 3, lines 30-32 and 51-54).

Holloway fails to explicitly teach the claimed each client in a population of clients, determining a transition probability for each sequence of healthcare states experienced by the client.

Pendleton Jr. et al. teach a composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). Additionally, Pendleton, Jr. et al. teaches that other approaches include computing a weighted average of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a threshold number, which is based upon prior experience (block 70) (see: Pendleton Jr. et al.: column 7, lines 32-37). Since Pendleton Jr. et al. teach a mathematical method for computing the fraud indicator using averages, weighted averages and threshold values as noted above and also teaches the use of a claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: Pendleton Jr. et al.: column 6, lines 10-20). It would have been obvious to use mathematical methods to determining a transition probability for each sequence of healthcare states experienced by the client.

The obviousness of combining the teachings of Pendleton Jr. et al. with the system as taught by Holloway et al. are discussed in the rejection of claim 1, and incorporated herein.

As per claim 15, Holloway et al. teaches a method and system for detecting fraudulent medical claims including an expert computer system using a set of decision-making rules coupled to a knowledge base of facts and observations to assist the medical claims process (see: column 3, lines 30-32 and 51-54). Holloway et al. further teaches that each claim (1, Fig. 1) is

entered into a computer system (2, Fig. 1) containing sufficient data processing and memory and suitable commercially available database management software programs with facts including one or more medical procedures for which payment is sought, other data such age of the patient, claim number, date(s) of treatment(s) and procedure(s), the name of physician, etc. (see: column 4, lines 23-40).

Holloway et al. fails to teach a system for creating models of healthcare claims, comprising:

--the claimed data processing module that processes a set of the claims into a date-ordered, entity specific sequences of states;

--the claimed transition processing module that determines, from the date ordered entity specific sequences, a transition metric for each transition between states; and

--the claimed entity profiling module that generates profiles for at least one entity, a transition metric for one or more sequences of states related to the entity.

Pendleton Jr. et al. teaches a claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6, lines 10-20). Pendleton Jr. et al. further teaches that the claim file (26, Fig. 4) is sorted in a sort operation (46, Fig. 5) and the data is encoded in a claim data file (40, Fig. 4) (see: column 6, lines 39-53). The Examiner considers that since the claim file contains information such as claim dates and is sorted by a sort operation, this suggests that the claims are date ordered. Pendleton Jr. et al. also teaches a composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). In addition, Pendleton, Jr. et al.

teaches that other approaches include computing a weighted average of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a threshold number, which is based upon prior experience (block 70) (see: column 7, lines 32-37). Furthermore, Pendleton Jr. et al. teaches that once a supplier or provider using the fraud indicator exceeds the threshold number the results for the subject supplier or provider are written to neural network (NN) data base file (72, Fig. 7) (see: column 7, lines 41-45). Since Pendleton Jr. et al. teaches a mathematical method for computing the fraud indicator using averages, weighted averages and threshold values as noted above. It would have obvious to use mathematical methods for transition metric for each transition between states and transition metric for one or more sequences of states related to the entity.

The obviousness of combining the teachings of Pendleton Jr. et al. with the system as taught by Holloway et al. are discussed in the rejection of claim 1, and incorporated herein.

As per claim 19, Holloway et al. teaches wherein an entity is one for the group consisting of: a client; a healthcare provider; a provider/client; or a procedure. This feature is met by each claim (1, Fig. 1) which is entered into a computer system (2, Fig. 1) containing sufficient data processing and memory and suitable commercially available database management software programs with facts including one or more medical procedures for which payment is sought, other data such age of the patient, claim number, date(s) of treatment(s) and procedure(s), the name of physician, etc. (see: column 4, lines 23-40).

5. Claims 3-5, 8-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,253,186 to Pendleton, Jr. et al.

As per claim 3, Pendleton Jr. et al. teaches a method for identifying potentially fraudulent or abusive treatment practices by healthcare providers, comprising:

--the claimed processing healthcare reimbursement claims for treatments provided by the providers, to determine transition probabilities for sequences of healthcare states for the treatments is met by the composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). In addition, Pendleton, Jr. et al. teaches that other approaches include computing a weighted average of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a threshold number, which is based upon prior experience (block 70) (see: column 7, lines 32-37);

--the claimed for each provider, determining an aggregated transition probability for all sequences of healthcare states for treatments provided by the provider is met by the statistical information which access provider stat file (90, Fig. 8) and compiled in a statistical system update (see: column 8, lines 14-17); and

--the claimed identifying as potentially fraudulent at least one provider having aggregated transition probability that is statistically different from the aggregate transition probabilities of similar providers is met by the process accumulating the data involving simply adding the fraud indicators produce for each claim line to produce a total for a particular supplier or provider (see: column 7, lines 10-14).

Pendleton Jr. et al. fails to explicitly teach transition probabilities sequences of healthcare states.

However, Pendleton Jr. et al. teaches a mathematical method for computing the fraud indicator using averages, weighted averages and threshold values as noted above. In addition, Pendleton Jr. et al. teaches use of a claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6, lines 10-20). The above-mentioned healthcare states are utilized to compute the fraud indicator and threshold values and subsequently the transition probabilities sequences from the healthcare states. The Examiner considers changes to the mathematical method for computing the fraud indicator such as using healthcare states, as parameters would produce transition probabilities sequences of healthcare states.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the mathematical method to compute the transition probabilities sequences of healthcare states within the fraud indicator and threshold values for detecting potentially fraudulent suppliers or providers of goods or services as taught by Pendleton, Jr. et al. with motivation of providing a system which is capable of processing claim data and identifying a potentially fraudulent provider or supplier (see: Pendleton Jr. et al.: column 1, lines 31-33).

As per claim 4, Pendleton Jr. et al. teaches determining an aggregated transition probability for all sequences of healthcare states for treatment provided by the provider comprises:

--the claimed for each client treated by a provider, determining a transition probability for each sequence of healthcare states including at least one treatment provided by the provider the

client is met by the claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6, lines 10-20); and

--the claimed determining the aggregated transition probability for the provider as a function of the transition probabilities determined for each sequence of each client.

Pendleton Jr. et al. fails to explicitly transition probability for each and all sequence of healthcare states.

However, Pendleton Jr. et al. teaches a mathematical method for computing the fraud indicator using averages, weighted averages and threshold values as noted above. In addition, Pendleton Jr. et al. teaches use of a claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6, lines 10-20). The above-mentioned healthcare states are utilized to compute the fraud indicator and threshold values and subsequently the transition probabilities sequences from the healthcare states.

The obviousness of using a mathematical or statistical method to compute transition probability for sequences of healthcare states within the teachings of Pendleton Jr. et al. are discussed in rejection of claim 3, and incorporated herein.

As per claim 5, Pendleton Jr. et al. fails to explicitly teach:

--the claimed for each pair of states, there is a transition probability for a transition between the states; and

--the claimed transition probability for a sequence of states is the geometric mean of the transition probabilities between each state and the next state in the sequence.

However, Pendleton Jr. et al. teaches a composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). In addition, Pendleton, Jr. et al. teaches that other approaches include computing a weighted average of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a threshold number, which is based upon prior experience (block 70) (see: column 7, lines 32-37). Since Pendleton Jr. et al. teaches a mathematical method for computing the fraud indicator using averages, weighted averages and threshold values as noted above and also teaches the use of a claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6, lines 10-20). It would have obvious to use mathematical methods to compute transition probability for a transition between the states using a geometric mean. The Examiner considers changes to the mathematical method for computing the fraud indicator such as using healthcare states, as parameters would produce transition probability for a transition between the states and the geometric mean of the transition probabilities between each state and the next state in the sequence.

The obviousness of using a mathematical or statistical method to compute transition probability for a transition between the states using a geometric mean within the teachings of Pendleton Jr. et al. are discussed in rejection of claim 3, and incorporated herein.

As per claim 8, Pendleton Jr. et al. teaches a method for creating a model of healthcare states, comprising:

--the claimed receiving healthcare reimbursement claims from a plurality of healthcare providers, each reimbursement claim related to a client and healthcare treatment is met by provider stat file (92, Fig. 8);

for each client:

--the claimed extracting from the claims related to the client a plurality of treatments is met by the extraction of claim data in the first step of data collection function (see: column 5, lines 21-35);

--the claimed determining at least one sequence of healthcare states from the treatments, each state associated with a provider is met by the claim lines and the term "lines" represents request for money to be paid in return for each product or service (see: column 36-40);

--the claimed for each pair of states in each sequence, updating a frequency count of a transition from a first state to a next state is met by the process of accumulating data involves adding fraud indicators produced for each claim line to produce a total for a particular supplier or provider (see: column 7, lines 9-13);

--the claimed for each state, determining a total count of transitions from the state to all other states based on the frequency counts is met by the process of accumulating data involves adding fraud indicators produced for each claim line to produce a total for a particular supplier or provider (see: column 7, lines 9-13); and

--the claimed after all transition probabilities are determined for each state transition, creating a look-up transition probability table that contains all state transition probabilities for subsequent transition probability in said model is met by the creation of lookup tables stored for use by the system (see: column 11, lines 18-57 and Fig. 4, 15 and 16).

Pendleton Jr. et al. fails to explicitly teach:

--the claimed for each state transition from a first state to a next state, determining a transition probability for the state transition as the ratio of the frequency count from the first state to the next state, to total count of transition for the first state to all other states.

However, Pendleton Jr. et al. teaches a composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). In addition, Pendleton, Jr. et al. teaches that other approaches include computing a weighted average of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a threshold number, which is based upon prior experience (block 70) (see: column 7, lines 32-37). Since Pendleton Jr. et al. teaches a mathematical method for computing the fraud indicator using averages, weighted averages and threshold values as noted above and also teaches the use of a claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6, lines 10-20). It would have obvious to use mathematical methods to compute each state transition from a first state to a next state, determining a transition probability for the state transition as the ratio of the frequency count from the first state to the next state, to total count of transition for the first state to all other states. The Examiner considers changes to the mathematical method for computing the fraud indicator such as using healthcare states, as parameters would produce each state transition from a first state to a next state, determining a transition probability for the state transition as the ratio

of the frequency count from the first state to the next state, to total count of transition for the first state to all other states.

The obviousness of using a mathematical or statistical method to compute each state transition from a first state to a next state, determining a transition probability for the state transition as the ratio of the frequency count from the first state to the next state, to total count of transition for the first state to all other states within the teachings of Pendleton Jr. et al. are discussed in the rejection of claim 3, and incorporated herein.

As per claim 9, Pendleton Jr. et al. teaches a method of profiling healthcare entities, the method comprising:

--the claimed determining at least one sequence of healthcare states for an from healthcare reimbursement claims associated with the entity is met by the process of updating provider stat file (92, Fig. 14) by applying the statistical fraud analysis models (212, Fig. 14) to provider history data from the application data base (202, Fig. 14) to examine historical provider characteristics which are highly indicative or suspect behavior (see: column 36-46).

Pendleton Jr. et al. fails to explicitly teach:

--the claimed determining a probability of each sequence based on previously determined probabilities of individual ones of the healthcare states; and

--the claimed assigning to a profile of the entity a transition metric based on the probability of each sequence.

However, Pendleton Jr. et al. teaches a composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). In addition, Pendleton, Jr. et al. teaches that other approaches include computing a

weighted average of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a threshold number, which is based upon prior experience (block 70) (see: column 7, lines 32-37). Since Pendleton Jr. et al. teaches a mathematical method for computing the fraud indicator using averages, weighted averages and threshold values as noted above and also teaches the use of a claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6, lines 10-20). It would have obvious to use mathematical methods to determine a probability of each sequence based on previously determined probabilities of individual ones of the healthcare states and assigning a profile of the entity transition metric based on the probability of each sequence. The Examiner considers changes to the mathematical method for computing the fraud indicator such as using healthcare states, as parameters would produce a determination of probability to each sequence based on previously determined probabilities of individual ones of the healthcare states and assigning a profile of the entity transition metric based on the probability of each sequence.

The obviousness of using a mathematical or statistical method to determine a probability of each sequence based on previously determined probabilities of individual ones of the healthcare states and assigning a profile of the entity transition metric based on the probability of each sequence within the teachings of Pendleton Jr. et al. are discussed in the rejection of claim 3, and incorporated herein.

As per claims 10-14, Pendleton Jr. et al. teaches the healthcare states are facilities providing procedures to clients, service codes for healthcare procedures, healthcare providers,

provider-days and provider-service codes. These features are met by the claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6, lines 10-20).

As per claim 16, Pendleton Jr. et al. fails to explicitly teach the claimed an analytical module that receives the profiles and identifies entities that are potentially fraudulent or abusive based at least in part upon the transition metrics contained in the profiles.

However, Pendleton Jr. et al. teaches a composite fraud indicator that is computed by averaging a plurality of fraud indicators for the selected provider or supplier (see: column 2, lines 23-25). In addition, Pendleton, Jr. et al. teaches that other approaches include computing a weighted average of the individual fraud indicators, of selecting a subset of the indicators for use in computing the composite fraud indicator. After the composite fraud indicator is computed, it is compared to a threshold number, which is based upon prior experience (block 70) (see: column 7, lines 32-37). Furthermore, Pendleton Jr. et al. teaches that once a supplier or provider, using the fraud indicator exceeds the threshold number the results for the subject supplier or provider are written to neural network (NN) data base file (72, Fig. 7) (see: column 7, lines 41-45). The Examiner considers the suppliers or providers written to the NN database file to be profiles and identities of supplier or provider that are part of potentially fraudulent or abusive practices. Since Pendleton Jr. et al. teaches a mathematical method for computing the fraud indicator using averages, weighted averages and threshold values as noted above. It would have obvious to use mathematical methods along with an analytical module that receives the profiles and identifies

entities that are potentially fraudulent or abusive based at least in part upon the transition metrics contained in the profiles.

The obviousness of using a mathematical or statistical method along with an analytical module that receives the profiles and identifies entities that are potentially fraudulent or abusive based at least in part upon the transition metrics contained in the profiles within the teachings of Pendleton Jr. et al. are discussed in the rejection of claim 3, and incorporated herein.

As per claims 17-18, Pendleton Jr. et al. teaches the claimed analytical module includes a predictive model and rules based model. This limitation is met by the providers that undergo analysis using statistical screening models and a fuzzy logic analysis of model results to produce a fraud prediction model (see: column 36-58). Pendleton Jr. et al. further teaches the use of an expert system interface engine (block 160, Fig. 12) that analyses each record of a particular provider using expert system rules (162, Fig. 12) (see: column 9, lines 35-45).

Response to Arguments

6. Applicant's arguments filed 10/23/03 have been fully considered but they are not persuasive. Applicant's arguments will be addressed hereinbelow in the order in which they appear in the response 10/23/03.

(A) In the remarks, Applicants argue in substance that, the Examiner conclusion that mathematical average used in the reference for computing a fraud indicator can be substituted for the claimed invention's derivation and use of transition metrics is improper. The Examiner respectfully submits that Pendleton Jr. et al. teaches a claim file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or other information (see: column 6,

lines 10-20). Pendleton Jr. et al. further teaches that the claim file (26, Fig. 4) is sorted in a sort operation (46, Fig. 5) and the data is encoded in a claim data file (40, Fig. 4) (see: column 6, lines 39-53). Moreover, Pendleton, Jr. teaches a process by which a neural network analyzes the claim line information in the claim file (48, Fig. 5) to produce a number or score for each claim line which is viewed as a fraud index or indicator (see: column 7, lines 5-9). The Examiner considers the number or score for each claim line mentioned above as the information necessary to compute a derivation and transition metrics.

In response to applicant's argument that the references fail to show each and every feature of applicant's invention, it is noted that the features upon which Applicant relies (i.e., a transition metric is obtained through a data-driven Markov model) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With respect to the limitations recently amended in claims 1, 2, 8 and 9, the Examiner respectfully submits that all features are disclosed by the collective teachings of the Holloway and Pendleton, Jr. references as discussed in detail in sections 4 and 5 above in addition to the reasons set forth in the prior Office Action (paper number 14), and incorporated herein.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Morgan whose telephone number is (703) 605-4441. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m. Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on (703) 305-9588. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

RWM
rwm

Joseph Thomas
JOSEPH THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600